DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	SAND POND	Lake Area (ha):	64.38
Town:	MARLOW	Maximum depth (m):	18.3
County:	Cheshire	Mean depth (m):	6.2
River Basin:	Connecticut	Volume (m^3):	3977500
Latitude:	43°11' N	Relative depth:	2.0
Longitude:	72°10' W	Shore configuration:	1.23
Elevation (ft):	1543	Areal water load (m/yr):	2.88
Shore length (m):	3500	Flushing rate (yr^{-1}):	0.50
Watershed area (ha):	334.7	P retention coeff.:	0.75
% watershed ponded:	0.0	Lake type:	natural w/dam

BIOLOGICAL:	21 January 1987	15 July 1986
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 62%	DINOBRYON 65%
#2	PERIDINIUM 30%	PERIDINIUM 30%
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		355.0
CHLOROPHYLL-A (µg/L)		1.09
DOM. ZOOPLANKTON (% TOTAL) #1	CALANOID COPEPOD 44%	CALANOID COPEPODS 37%
#2	CILIATE SPP 33%	NAUPLIUS LARVAE 30%
#3	GASTROPUS 15%	
ROTIFERS/LITER	9	
MICROCRUSTACEA/LITER	17	30
ZOOPLANKTON ABUNDANCE (#/L)	39	30
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		8.5
BOTTOM DISSOLVED OXYGEN (mg/L)	8.2	1.5
BACTERIA (fecal col., #/100 ml) #1		< 10
#2		< 10
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 10.0
Hypolimnion volume (m^3): 212000

CHEMICAL:

Lake: SAND POND
Town: MARLOW

	21 January 1987		15 July 1986		
DEPTH (m)	5.0	10.0	4.0	9.5	12.0
pH (units)	5.4	5.4	5.5	5.5	5.4
A.N.C. (Alkalinity)	0.2	0.3	0.2	0.3	0.4
NITRATE & NITRITE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.33	0.33	0.19	0.22	0.25
TOTAL PHOSPHORUS	0.008	0.006	0.008	0.004	0.007
CONDUCTIVITY (μ mhos/cm)	22.7	22.9	22.7	22.6	25.1
APPARENT COLOR (cpu)	7	8	5	5	10
MAGNESIUM			0.34		
CALCIUM			1.5		
SODIUM			1.2		
POTASSIUM			0.30		
CHLORIDE			10		< 10
SULFATE					
TN : TP	41	55	24		36
CALCITE SATURATION INDEX			6.3		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1986

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	0	1	0	5	Oligo.

COMMENTS:

1. Also called Echo Lake.
2. The depth soundings were not taken at the time of sampling because of high winds. The deep spot was not sampled.
3. A deep epilimnion was present. A beginning of a oxygen deficit was observed at 12.5m. If the deep hole had been sampled (18.3m), most likely a greater oxygen deficit would have been observed. We conservatively estimate the bottom D.O. to be 1.5mg/L for classification purposes (it was 1.6mg/L at 16.8m in 1939).
4. Whole-water phytoplankton was 50% blue-greens and 40% greens. Dominant genera were Merismopedia (50%) and tiny green flagellates (25%).
5. Lake level was down about 1.5 feet at the time of sampling.
6. Good public boat launch with adequate parking and trash barrels present.
7. Pond was previously surveyed in 1977. There was no change in trophic classification but the pH dropped a full unit (from 6.5 to 5.5).

FIELD DATA SHEET

LAKE: SAND POND
DATE: 07/15/86

TOWN: MARLOW
WEATHER: SUNNY & WINDY

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	19.2	9.5	102 %
	1.0	19.2	9.0	97 %
	2.0	19.1	8.6	92 %
	3.0	19.1	8.5	91 %
	4.0	19.0	8.3	89 %
	5.0	19.0	8.2	88 %
	6.0	19.0	8.2	88 %
	7.0	18.9	8.2	86 %
	8.0	18.5	8.3	87 %
	9.0	18.2	8.5	89 %
	10.0	16.1	9.3	93 %
	11.0	14.5	8.0	77 %
	12.0	14.2	4.5	43 %
	12.5	14.0	3.8	36 %

SECCHI DISK (m): 8.5

BOTTOM DEPTH (m): 13.0

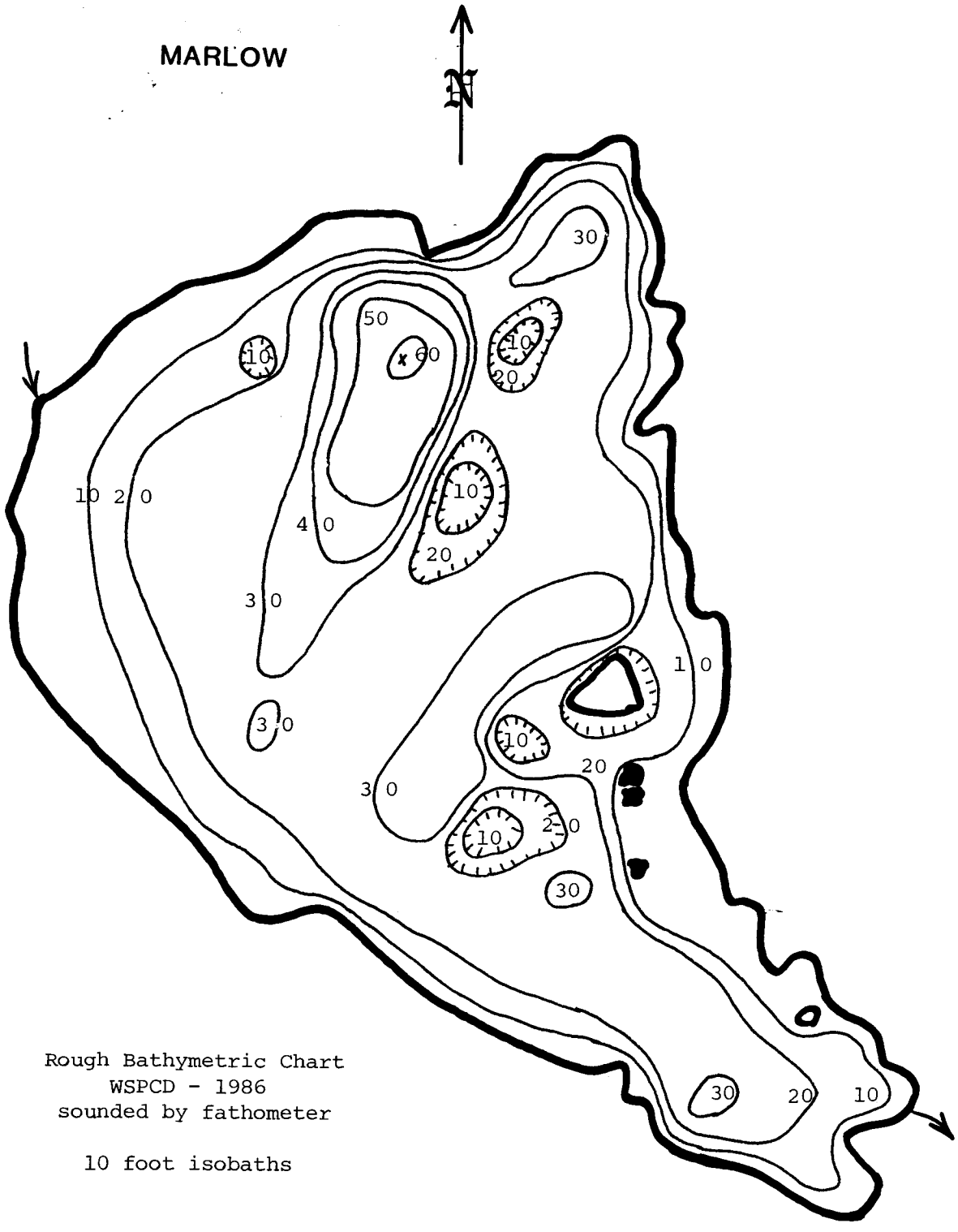
TIME: 1230

COMMENTS: Deep spot was 18.3 meters. It was not sampled.

*Dissolved oxygen values are in mg/L

SAND POND

MARLOW



Rough Bathymetric Chart
WSPCD - 1986
sounded by fathometer

10 foot isobaths

0 0.2 KM

AQUATIC PLANT SURVEY

LAKE: SAND POND TOWN: MARLOW DATE: 07/15/86

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
L	Lobelia dortmanna	Water lobelia	Scattered
F	Nymphoides cordatum	Floating heart	Common
N	Nymphaea	White water lily	Sparse
Y	Nuphar	Yellow water lily	Sparse
S	Sparganium	Bur reed	Scattered
W	Potamogeton	Pondweed	Sparse
G	Gramineae	Grass family	Sparse
E	Eriocaulon septangulare	Pipewort	Sparse
f	Chlorophyceae	Filamentous green algae	Scattered

OVERALL ABUNDANCE: Scattered

GENERAL OBSERVATIONS:

1. Filamentous algae were along much of the shoreline.

SAND POND

MARLOW